

REMARKS

This response is intended as a full and complete response to the Office Action dated November 19, 2003. In that action the Examiner noted that claims 1-10 were pending. This response adds new claims 11-28 and cancels claims 1-10. In view of the foregoing amendments and the following discussion, the Applicant submits that all of the pending claims are allowable. Therefore, please reconsider the pending claims and allow the subject application to issue.

Correspondence Address

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As requested in the attached "Revocation of Previous Power of Attorney and New Appointment" filed on October 25, 2002 (copy attached) and received in the Patent and Trademark Office on October 30, 2002, as evidenced by the return postcard.

Claim Objections

The Examiner objected to claims 1, and 7-10 for various informalities. As claims 1-10 are cancelled and new claims 11-28 are added, the objection to claims 1 and 7-10 is rendered moot. However, the new claims are drafted to avoid issues identified by the Examiner with regard to claims 1 and 7-10. In view of the foregoing amendments, Applicant respectfully requests withdrawal of the objection to the claims.

Specification Objections

The Examiner objected to the specification for various informalities. In response, Applicant has amended the specification as follows.

On page 3, lines 8 and 9, "neighboring nodes" are changed to "neighbor nodes."

On page 3, line 13, "each include" is amended to "each includes."

On page 9, lines 2 and 3, "bi-directional link 18" is amended to --bi-directional link--.

On page 13, line 20, "protocol 58" is amended to --protocol--.

On page 64, line 12 is amended such that "without" is changed to --with--.

In view of the foregoing amendments, Applicant respectfully requests withdrawal of the objection to the specification.

Drawing Objections

The Examiner objected to the drawings for minor informalities. In response, Applicant has amended the drawings to address the identified informalities. Specifically,

Figure 10A is amended to add a designator 198 to the upper right hand corner;

Figure 14 is amended to change the shape of the element below block 288 to a diamond; and

Figure 16 is amended to delete the decision block above block 334.

In view of the foregoing amendments, Applicant respectfully requests withdrawal of the objection to the drawings.

Objection of claim 3 under 35 U.S.C. 112, second paragraph

The Examiner objected to claim 3 under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. As claims 1-10 are cancelled and new claims 11-28 are added, the rejection of claim 3 is rendered moot. In view of the foregoing amendments, Applicant respectfully requests withdrawal of the rejection of claim 3 under 35 USC 112, second paragraph.

Rejections of claims 1-10

Claims 1, 2, 4-7, and 10 stand rejected under 35 USC §102(b) as being anticipated by Vu (US 5,056,085). Claim 3 stands rejected under 35 USC §103(a) as being unpatentable over Vu (US 5,056,085). Claims 8-9 stand rejected under 35 USC §103(a) as being unpatentable over Vu (US 5,056,085) in view of Flanagan (US 5,506,838).

Appellant cancels claims 1-10 and adds new claims 11-28 that better define the subject invention. In view of the cancellation of claims 1-10, their specific rejections are rendered moot. Consequently, Applicant respectfully requests withdrawal of the rejections of claims 1-10.

New Claims:

The Applicant submits new claims 11-28 that are directed similar subject matter as cancelled claims 1-10, but which better define the inventive subject matter and which address issues identified in the November 19, 2003 Office action. The new claims are drafted in a manner to avoid claim objections and rejections as recited above.

Furthermore, the new claims are drafted to clearly distinguish over Vu (US Patent 5,056,085) and Flanagan (US 5,506,838). Newly filed independent claims 11 and 20 positively recite elements not found in or suggested by Vu or Flanagan. In particular, all of the claims, directly or indirectly, recite a multipart process. In that process, a neighbor node sends out a discovery message (alternatively referred to as a HELLO message). In response, a receiving node sends out a discovery message (alternatively referred to as a NEIGHBOR message) that contains the identity of the receiving node. The original sending node then sends a discovery message (alternatively referred to as a NEIGHBOR ACK message). Subsequently, the newly identified node is added to a table of neighbor nodes. Then, a sequence of messages is sent that list changes in the status of the neighbor nodes. This process is essentially a) hello, is anyone there?, followed by b) I'm here, followed by c) I hear you, d) followed by adding the new node to a communication status table, and then e) sending signals that say "here are the changes to my neighbor nodes." Thus, a new node is recognized and identified, and

that node is added to a table, and changes to the communication status of the neighbor nodes are sent. This lets other nodes know of the new neighbor node as well as other nodes having communication status changes. Note, only nodes with changes are sent in the HELLO message, thereby significantly reducing the overhead of a large HELLO message. This is contrary to Vu and Flanagan.

Independent claim 11 is typical of the newly added independent claims:

11. (New) A method of operating a network having a plurality of nodes, comprising:
 - maintaining in a receiving node a neighbor table comprised of each known neighbor node of the receiving node and the communication status of each known neighbor node;
 - receiving a HELLO message containing an address of a new sending node;
 - transmitting a NEIGHBOR message that includes an address of the receiving node to said new sending node;
 - receiving a NEIGHBOR ACK message from said new sending node;
 - updating said neighbor table to reflect discovery of said new sending node and communication status of said new sending node; and
 - transmitting at least one HELLO message comprising only a list of neighbor nodes that have communication status changes. (Emphasis added)

VU does not suggest the foregoing. What Vu describes is a method of informing all nodes of a network about the presence of a node by flooding the network. In particular, Vu teaches sending a message with identifiers to a receiver; see Vu, Figure 18, blocks 1-3. That message is received, processed to ensure that the message is new, passed to higher layers, and logged into the receiving node (block 3-5 and 10). Then, an acknowledgment is sent to the originating node; see Vu, Figure 18, blocks 6 and 11, followed by transmitting the message to all nodes EXCEPT the originator node, see Block 8 of Figure 18 of Vu

Even if blocks 1-6 and 10-11 of Figure 18 of Vu are considered to correspond to the "hello" and "I'm here" portions of the recited invention, Vu has no corresponding "I hear you" portion (NEIGHBOR ACK), nor does Vu suggest subsequently transmitting only lists of changes of the status of neighbor nodes. Vu teaches sending only one message from an originator to a receiver (blocks 2-3 of Figure 18), the present invention is directed to and requires sending two messages from an originator to a receiver (HELLO and NEIGHBOR ACK), plus subsequent messages to enable neighbor nodes to identify and update their status with the receiver.

Furthermore, Flanagan does nothing to bridge the gap between the invention defined by the newly added claims and Vu. Flanagan teaches a method of routing packet information along a network. Packets sent by a sender are received by receivers. The receivers check to see if they have previously received the packet. If so, they do nothing (stops continue sending of packets). Otherwise, the packet information is recorded for subsequent checking, the packet is modified to provide route information (how the packet gets to the next node), and transmits the modified packet to other nodes directly connect to the receiver node. Reference Flanagan, Figure 5 and its supporting text found on column 9, line 8 through column 13, line 55.

Flanagan does not suggest maintaining a neighbor table comprised of each known neighbor node and state information regarding the communication status of each sending node. However, Flanagan does transmit packet propagation signals to identify signal routing information to the other nodes in the network, see column 3, lines 1-25. But, even if for the sake or argument Flanagan's signal routing information is considered to correspond to the communication status of each sending node, Flanagan does not suggest transmitting HELLO messages comprised of lists of neighbor nodes only having state information changes.

Similar limitations to that found in claim 11 are found in the other independent claims. Furthermore, the newly added dependent claims include limitations directly related to maintaining an existing network. Thus, all of the new added claims are allowable.

CONCLUSION

Applicant submits that none of the claims presently in the application are anticipated under the provisions of 35 U.S.C. §102(a) or obvious under the provisions of 35 U.S.C. §103(a). Furthermore, the newly added claims are directed the similar subject matter as the originally filed claims. Consequently, the Applicant believes that all pending claims are in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Kin Wah Tong or John M. Kelly at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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Attachments:

"Revocation of Previous Power of Attorney and New Appointment" dated October 30, 2002 and its supporting materials.

3 Sheets Formal Drawings, FIGS. 10A, 14, and 16